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Economic Feasibility Study on Sitting of Soap Plant in the South Eastern Nigeria

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Abstract
The success of the various governmental sustainable development goals (SDGs) are hinged in the level of development and robustness of the industries in such countries. Currently, scores of industries are winding up thereby creating unemployment, social insecurity, and poor standard of living. Lack of understanding of the requirements for running these industries coupled with over reliance on petroleum powered economy have been identified as the major cause of the above problem. Therefore, this feasibility study was undertaken using market and financial analysis as indices to determine the viability of soap production enterprise in the south eastern part of Nigeria. Through the analysis of raw material, competitors, labour cost of infrastructure, overhead, annual maintenance, depreciation and cost of production, computation of yearly repayment amount, amortization schedule and profit and loss estimation, an annual gross operating income of N1,427,802,000.00, annual gross operating expense of N26,158,000.00, annual cost of production of N5,090,052,000.00 were realized with the worth of the project being N126,651,300.00. The estimated net annual profit of N981,151,030.00 shows that the enterprise would pay off its cost of project after five years with justification of external funding. The project of establishing soap industries in the south eastern part of Nigeria is potentially profitable, feasible, viable and projected to have a healthy cash flow and viable long term.
Keywords: Soap, Feasibility study, South East Nigeria, Profitability, Viability

1. Introduction

It is very imperative that before committing money, time and energy by a highly spirited entrepreneur a quick feasibility study of the business idea is needed to see its viability and ascertain possible challenges to the success of such a project. Soap differs from other detergents in that it is made from natural fats and oils, while other detergents are generally made from mineral oils by a succession of more complex chemical reaction (Austin, 1984).Therefore; soap is seen as being renewable. The information obtainable from these studies needs to focus on finance, marketing and production in the frame of location, modus operandi, raw material, equipment, space, labour skills and overheads.An entrepreneur is expected to investigate the suitability of the opportunity offered by every business investment to its own specific skills and expectations (Okenwa, 1999). Feasibility studyhelps to identify the long term basis and financial implications of soap enterprise through analysis (Ohimain et al., 2014). It equally helps to determine whether the business plan has the necessary resources for its practicability (Marino,2012). This will reduce the incidence of investing more to correct flaws and remove limitations than make gain (Lohrey, 2014).This must involve technical, economic, commercial, environmental and social assessments. However, the main challenge to the success of sitting and operating of various soap industries in the south eastern part of Nigeria is lack of feasibility study in the approach to establishment of such industries. Soap manufacturing is currently a very broaden area with various methods of production. Soap production is one of the areas that is lucrative and needs little capital to operate (Warra, 2013).Many are raising soap factories because, it is a product with high future potentials as the leading fast moving consumer goods, while few are winding up their soap factories owning to lack of proper consulting standard feasibility study and the use of wrong hands in running the process and management of such factories. In Nigeria the poor power supply, unsteady prices of raw materials and its irregular availability, the high interest rate, strict and frustrating conditions from banks and other financial institutions are heavily challenging in manufacturing outfits which soap industry is not exempted. There are over one thousand (1000) soap factories in Nigeria concentrating on Lagos and Ogun state from the west, few at Kano from the North and the rest at Aba and Onitsha in the south-east. Amongst all these areas the south eastern part of Nigeria has more advantage owing to the availability of palm oil and palm kernel oil which is the major soap raw material (Ohimain et al., 2014). Also, there are good markets like Ontisha main market, Ogbete main market Enugu, Ariaria International market Aba from where the products are distributed to all parts of Nigeria and beyond. Therefore, the purpose of this study is to investigate the viability of soap industry in the south eastern part of Nigeria. South eastern Nigeria lies between 5°-7° North of Equator and its position in the Nigeria and Africa is shown in Figure 1.

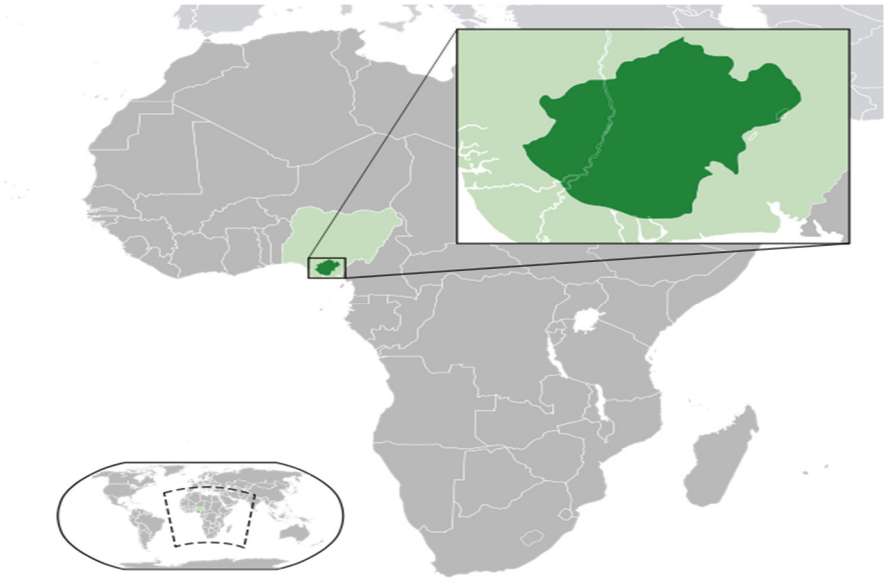

Figure1: The location of south eastern Nigeria

2. Materials and methods

2.1 Field survey

The field work and survey was conducted in the five states in the south eastern Nigeria (Abia, Anambra, Ebonyi, Imo and Enugu) in May through November 2017.

2.2 Data Analysis

The data analysis follows the profitability determinants as applied by Ohimain et al (2014). It involved the following:Raw materials analysis , labour analysis, annual maintenance and depreciation schedule, overhead cost analysis, annual cost of production, yearly repayment amount, amortization schedule, net profit before tax and gross operating income.

2.3 Assumptions and Basis of Computation of Financial Projections

In arriving at the financial projections, the following assumptions were made based on the information available to us at the time of this study. For example, national economy is expected to grow at a projected rate of 12% per annum through 2019, and the rate of inflation is estimated as published by the Central Bank of Nigeria (CBN) and reported at 7% per annum. Based on these assumptions, It is strongly believed that the projections would hold true with little or no variation on the operations of the project, while it is assumed that the cost of the various factors of production would hold from within the foreseeable future.

Basis: 2 tonnes /hr of Laundry and Toilet soap production.

1.	Work hour per day	24.0
2.	Number of work days per month	26.0
3.	Capacity Utilization	80.0 % (or19.2hrs)
4.	Inventory of Finished goods	Negligible
5.	Maintenance & Repairs (Land/Buildings)	2.5% pa on cost (straight line)
6.	Maintenance Repairs (Plant & Machinery)	2.50% pa on cost (straight line)
7.	Maintenance Repairs (Motor Vehicle)	2.50% pa on cost (straight line)
8.	Maintenance Repairs (Office Equipment)	2.50% pa on cost (straight line
9.	Depreciation (Plants & Machinery)	10.00% pa on cost (straight line)
10.	Depreciation (Land &Buildings)	2.00% pa on cost (straight line)
11.	Depreciation (Office Equipment)	20.00% pa on cost (straight line)
12.	Depreciation (Motor Vehicles)	20.00% pa on cost (straight line)
13.	Business Promoters	1.00% pa on Revenue
14.	Pay roll Services	1.00% Pa on payroll
15.	Company Income Tax	30.00% Pa
16.	National Economic Growth Rate	12.00% Pa
17.	Inflation	7.00% pa

3.0: Results and Discussion

3.1 Market analysis

This product is to be sold to virtually all the markets in Nigeria with the key distributors located in Onitsha, Aba, Kano, Asaba, Portharcourt, Lagos and Kaduna. Key sub-distributors shall be located in some satellite towns found to be closer to the plant such as Nnewi, Asaba, Umuahia, Enugu, Gboko, Benin, Owerri, Etche etc. Currently, the Northern part of the country might be seen again as vibrant markets owing to the decreasing in security challenges ravaging the area though few customers are currently on but their purchase is always larger and they have less interest in the quality and aesthetic nature of the product but the price would be less. Hence, efforts shall be made in advertisement and market awareness to saturate the South- South, South-East and South-West regions of the Country. Because these regions are seen to be more vibrant market targets owing to the following:

- They have more tendency of social and luxury life activities
- They contain largest educated and more enlightened class of the country's citizen
- More industrially and commercially driven regions.
- Have more hospitality industries in the country.
- The south east and western parts of the country have more commercially inclined individuals.
- Currently, enjoys more security than every other part of the country.

3.2 Raw material supply analysis

Table 1 presents the price list and sources of the key raw materials applied in the production of soap in Nigeria. Some of them are obtained from foreign markets while majority of them can be easily sourced locally. Fats and oil has the highest price among the list and the highest consumed. However, all the oil required are locally available to the advantage of soap enterprise in Nigeria.

Table 1: List of raw materials, sources and prices

S/N	Material	Price in #/$	Source
1	Palm Oil	42,000.00/drum	Local
2	Tallow fat(Top white)	40,000.00/drum	Local
3	Animal fat	36,000.00/drum	Local
4	Palm Stearin	35,000.00/drum	Local
5	PKO	42,000.00/drum	Local
6	Palmitic	30,000.00/drum	Local
7	DFA	200,000.00/tonne	Local
8	Caustic Soda pellets	2,150.00/bag of 25kg	Local
9	Caustic Soda Liquid	19,000/drum	Local
10	Glycerin	60,000.00/250kg drum	Local
11	Calcium Carbonate	560.00/50kg bag	Local
12	Hydrogen Peroxide	12,500/65kg	Local
13	Sulphuric Acid	3,700/ 35kg	Local
14	Fuel Oil (LPFO)	65.00/Liter	Local
15	Colour	65.00/kg	Local
16	Perfume	1,150.00/kg	Local
17	Carton	50.00/carton	Local
18	Soap Base	$2,281.97/Tn	Foreign
19	Soap base (Laundry)	$1,278.69/Tn	Foreign
20	Lauric Acid	$1.77/kg	Foreign
21	Stearic Acid	$1.77/kg	Foreign
22	Titanium Dioxiode	$1.97/kg	Foreign
23	Glycerine	$1.97/kg	Foreign
24	EDTA	$5.9/kg	Foreign
25	Triclosan	$59.0/kg	Foreign

Table 2 contains the list of potential suppliers of the raw materials. The addresses of the suppliers are available in the Table 2.

Table 2: Raw material supplier forecast:

Raw material Name	Supplier company	Address	Foreign/Local
Palm Oil	Obosi Palm Produce center	Obosi, Anambra state	Local
Deionized fatty Acid	Jilnas Nig Ltd	EziamaOssahUmuahia, Along mission Hill Road,	Local
	Nifex Vegetable. Oil	122 St. Micheal's Road Aba Km 13 Aba Ikot- Ekpene Road, Aba	Local
	S.O. Umeokoro& Sons	6 Archbishop Heeryst 1 Mission Road,Obosi	Local
	Ishiaku	80 Trans AmadiIndustrial Layout Portharcourt	Local
Tallow Fat	Ralpmoore	24 MilvertonAveneu,Aba	Local
	A.U Jonkej Nig. Enterprises	414 Wares point Rd White Sand Market, lagos	Local
	Uche Holdings	8 Oyebolastreet,Lagos	Local
	Udeagbala vegetable oil	152 Aba Owerri Road	Local
	Onyx Commodity Ltd, Ph		Local
Local Tallow	U & I Chemical Nig.	32 Port Harcourt Rd, Aba	Local
	Des & Des Enterprises	Km 4 Aba P.H Express Way Aba	Local
Calcium Carbonate	Hugo Solid Mineral Processing Ind. Ltd	Km 21/2 Nkpor Umoji Road	Local
	Mobell Nig. Ent.	Km 163 auchi – Okene Rd	Local
	Hyco Chemicals & Industrial Ltd	4H Line, No 6 Building material Int Market Ogidi Nigeria	Local
	MultiChem Ind. Limited	Plot D2, Isreal Adebayo Close Off Ladipo O avenue Ikeja Lagos Nigeria	Local
Glycerine	Chellarams PLC	29 Niger street Fegg,onithsa	Local
Colour	Timber land & products Ltd	65 Limca Road,	Local
	MultiChem Ind. Limited	Plot D2, Isreal Adebayo Close Off Ladipo O avenue Ikeja Lagos Nigeria	Local
	Swiss Specialty Chemical Limited,	387 Agege motor Road, Mushin, Lagos	Local
Caustic	A.U Jonkej Nig. Enterprises	414 Wares point Rd White Sand Market, lagos	Local
	Uche Holdings	8 Oyebolastreet,Lagos	Local
Soap Noodles	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China.	Foreign
	Pan Centry Edible oils,	Jalan Timah, pasirm Gudang industrial estate, Malaysia	Foreign
	Sasvannah Chemicals	30, Babs animashaun street, Lagos	Local
EDTA	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
	Sinochem Jangau Corporation	49 Zhongshan South Rd, nanjing, China	
TCC	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
	Sinochem Jangau Corporation	49 Zhongshan South Rd, nanjing, China	
Irgasan	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
Tinopal	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
	Swiss Specialty Chemical Limited,	387 Agege motor Road, Mushin, Lagos	Local
Zinc Oxide	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
Vit E	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
	Sinochem Jangau Corporation	49 Zhongshan South Rd, nanjing, China	
Pine Oil	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
Rose Extracts	Hainan fu Wang Trading Co. Ltd	D1702 international trade Building China	Foreign
Carton	Acme Packaging Limited	Umunaje Quarters Ibusa Road, Asaba, Nigeria	Local

3.3 Competitors Analysis

Table 3: List of Competitors

Sn	Company Name	Address	Product Name
1	Markson Chem. (W.A0 Ltd	Km 4 Nkpor Umuoj, Nkpor Anamnrat State	Top Powerful Germicidal Soap, Bethel Antiseptic Med. Soap etc
2	Tura Int'l Ltd	Ayaba Umueze Road, Aba	Tura Supreme Family Soap, Arut etc
3	Pacific Interlink Nig. Ltd	15 Commercial Road, Apapa, Lagos	Twist family Health soap
4	Nofan Inv. Nig. Ltd	101, Alkoro St. Ebutere, Marina, Lagos	Umoli Medicated & Antiseptic soap
5	Ala-Ateef Nig. Ltd	127 Demurinst, Biola Bus Stop Ketu Lagos.	505 laundry soap
6	Top Tree Oil Mills Nig.Ltd	Km 5 Enugu-Portharcourt Express Way Aba	7stars soap
7	W.J Bush &Co. Nig. Ltd	168 Mission Road Bompai. Kano	77 wjb bar soap
8	Ab System Nig. Enterprises	20 Fola Tyre Area Oyo State	Ab & Device soap
9	Sieco Ventures Ltd	19 Chukwurah Odu Street, Awada, Onitsha	Knife & ABE soap
10	Abik Nig. Ltd	5 New Town Odigbo, Ondo State	Abik
11	Zana Cosmetics Ind. Ltd	Km5 Enugu Expressway Aba	Alfan Medicated soap
12	Resources Improvement& Co Ltd (RIMCO)	Akwu-Uru Ind. Estate, Rimco Drive Umudim Nnewi	Alpha Laundry soap
13	Bonachuks Chem. Ind Ltd	Fed. Min. Of Sci. & Tech Incubation Centre, Unit 9 Anambra	Ano Hard & machine Wash
14	Bena Cosmetics Ind. Ltd(Cena Antiseptic Soap)	16/17 Chief Ogbuyi,Steet, Aba	Antigal Medicated soap, Benas Beauty Medicated soap
15	Rivers Veg. Oil Co Ltd	80, Trans Amadi, Pmb 0245, Portharcourt	His & hers Toilet soap Aura Premium, amar skin lightening etc
16	Beauty Base Ltd	Ayaba Umueze Ind. Est. Aba	Kitchen Star Multipurpose, hammer soap, Black pride
17	Gant Ind. Nig. Ltd	190, Orba Road Nsukka	Block soap
18	Jeopet Cosmetics Nig Ltd	11-15, Nwosu Street Off Urattha Road Aba	Brush Laundry Soap
19	Anyiamco Chemicals	10, Sir Austin Opara Street, Nkpolu Oroworukwu M3 Portharcourt	B+ 500 liquid detergent
20	Intercil Products Ltd	Plot 137, Emene Ind. Layout Ext. Abakiliki Rd, Enugu	Bull bar, ASDA
21	Ceeton Ind. Nig Ltd	3-5, Eze Close Near Deeper Life Church Flyover Aba	Bullet laundry. De-Prince
22	Canopy Ind. Ltd	Ogwni Ojii Village Anaocha LGA, Anambra State	Canopy bars Soap
23	Quest Laboratories Ltd	4, Crudas Street Off Denis Osadebe Street, Asaba	Clearzal Herbal Soap
24	C.C. Umeji Agro-Alied Co. Ltd	Enugu/ Onitsha Expressway, Near Tollgate, Ogbunike	Cow laundry soap
25	V.O. Adigbe Ent.	Cowan Estate Ajagba Dudu Delta States	Dv favour Toilet Star Remover
26	Zan Co. Ind Ltd	50 Asa Rd Aba	Germdam Medic Soap
27	Emos Best Ind Ltd	1, Agric Road Nkelle Ezunaka Anambra State	Lemo fresh Antiseptic
28	Honombizu Ind. Co. Ltd	7 Powerline Opobo Ogborhill Aba	Lindal & Juliet Luandry
29	Lubo Costmetics Ltd	287, Nnebisi Rd Asaba	Lubo white soap
30	Naffco Ind. Ltd	60 Portharcourt Road Aba	Matchet soap
31	Best Soap Ind. Ltd	Km 4 Aba-Enugu Expressway Aba	Ngo Tablet
32	Phina Ind. Ltd	17Chimezie Street Aba	Phina Kettle laundry
33	Rich Fruit Inv. Nig Ltd	27b Ngwa Road Aba	Rich Umbrella bar soap, three Palm soap
34	Hardis Dromedias Ltd	Hardis Ind. Estate Airport Road, Emene Enugu	Royallux Black, Normal sensitive
35	Tela Divine Ventures	1, Minister Agubaohia C Hycent Street Amaebu Orsu, Imo State	Tela wonderful Aloe Vera Black
36	Habil Inv. Ltd	174 Ikot Ekpene Road Aba	Tower Bar
37	Internatonal Eqitable Ass. Ltd	1 Nicolas Road Aba	Trend Toilet
38	Beta Costmetics Man. Co. Ltd	Isioolu Odume Ayout Obosi	Turkey Bar
39	Zebra Indu. Inv. Ltd	9 Opobo Road Aba.	

Table 3 presents the list of potentials competitors in the soap production enterprise in the area under study together with their brands. Most of the like RIMCO ltd, RIVOC ltd, Beauty Base ltd, PZ Plc, Unilever Plc are large scale manufacturers. Others are small medium scale enterprises. It is observed none of the industries exists

in Ebonyi state and Imo state while more concentration of the soap firms are in Aba in Abia state and Onitsha in Anambra state and few in Enugu State.

3.4: Product distribution analysis

Table 4:Market Survey on Product Distributors

S/N	Customer	Location	Business Address	Comments/Remarks
1	Mr. Uche	Abakiliki main market	Pamason Co. Nig Ltd, No 8 New Market Rd.	The chief Distributor of PZ PLC, for canopy ind. Ltd and aASDA intercil in Abakaliki
2.	Mrs G Edike	Same	G. A Edike and Sons Ltd. 2 New market Road	The prospect has a serious interest in new products but already distributes for bullet
3	Mrs abosi	Same	Abosi M.B Trading Coy,9 New Market road	A big distributor for bullet soap.
4.	Uncle Paul	Same	Ebony Line No 10	A whole seller
5	Happiness	Same	Ebony line no 7	A whole seller
6	Ejike	Same	Imo line No6	A whole seller
7	Kele chi	Same	Divine KC 46 cameroon line	Same as 6
8	Uche	Abakiliki	AEO & Sons Ltd Express line Z 31	Same as 6
9	-	Onuewke main market	Kings Nig Ent.	Buys soap from Pamason AI but others from Releif Mkt
10	M. O Udeagu	Ogbete Main Market Enugu	R4 No 19, S4 No3, Q1 No 16	Chief Distributor of RIVOC Portharcourt
11	SamChuks	Ogbete Main Market Enugu	S9 No 1	Wholeseller
12	Micheal Edeani	Ogbete Main Market Enugu	E. A Michael &Bro. ent. Q4 no 1	Suggests that reducing number of distributors to 3 will favour the products.
13	Mr.Ukason	Ogbete Main Market Enugu	R6 no 11	Chief Distributor of ASDA produced by Intercil Nig Ltd, Enugu
14	Robinson Ekwnife	Umahia	4 jos lane	He appears to be the most vibrant as others distributors were referring to him as the biggest merchant
15	Mr. Dele Mrs Amaka E. Mrs Chuks Mrs Angela Mrs Akanji	Relief Market Onitsha		Distributors
16	Danlami	Niger State		Distributor
17	Doris Chris	Owerri		Distributor
18	Favour	Auchi		Distributor
19	George	Ihiala		Distributor
20	Mojekwu	Nnewi		Distributor
21	O.K.C	Awka		Distributor
22	Okodede	Owerri		Distributor

3.5Man-Power Requirement/ Labour Analysis

The Plant when fully operational is expected to have the complement of the following staff:
Managing Director or General Manager, Factory Manager, Marketing Manager. These are expected to be holders of First Degree, Higher Diploma or any appropriate professional qualifications except in the case of the technical supervisors where the relevant experiences may prevail. We estimate that the plant will require a total of 10 staff. Details of compensation and emoluments are shown in Labour Analysis.This is the analysis of the estimated labour cost to be engaged in the business. It is estimated that a total number of fifteen (15) staff would be engaged for a start. However, the promoters might take some of the portfolios or even one staff may take up double portfolios

given the rate of unemployment pending the expansion stage. In each case we are analyzing the labour which should be cheaper in and around the south Eastern states given the fact that there are many sub – urban location and low standard conditions of labour wage application in the area.

Table 5: Summary of Staff Requirement

S/No	Position	Department	Staff Strength	Basic Unit Salary	Total
1	Production/Factory Manager	Production	1	40,000.00	40,000.00
2	Quality Control manager	Quality Control	1	40,000.00	40,000.00
3	Soap Boilers	Production	2	20,000.00	40,000.00
3	Shift Leader	Production	2	18,000.00	36,000.00
4.	Factory Workers	Production	8	15,000.00	120,000.00
5.	Machine Operators	Production	10	18,000.00	180,000.00
7.	Quality Control Supervisor	Quality Control	2	25,000.00	50,000.00
8.	Technicians (Elect. & Mech.)	Production	4	20,000.00	80,000.00
9.	Admin / General Manager	Administration	1	50,000.00	50,000.00
10	Account officer	Administration	1	20,000.00	20,000.00
11	Sales/ Marketing	Administration	3	20,000.00	60,000.00
12	Security officers	Administration	2	18,000.00	36,000.00
13	Drivers	Administration	2	20,000.00	40,000.00
	Total		**33**	**268,000.00**	**736,000.00**

Table 6:Labour Analysis

Labour Analysis	Rate/24 hrs. N'000	Rate/Month N' 000	Rate/Annum N' 000
Direct manufacturing wages:			
Production Supervisors/shift (x2)	1.15	30.00	360
Technical staff (x4)	3.07	80.00	960
Soap Boilers (2)	1.38	36.00	432
Operators (10)	6.92	180.00	2,160
Factory workers (x8)	3.08	80.00	960
Sub Total	**15.60**	**406.00**	**4, 872**
Production Overhead:			
Factory Manager/Prod. Manager	1.54	40.00	480
Quality Control manager	1.54	40.00	480
Quality Control supervisor (2)	1.92	50.00	600
Sub total	**5.76**	**150.00**	**1,800**
Admin & Sales Depts.:			
General Manager	1.92	50.00	600
Accountant/cashier	0.76	20.00	240
Sales (3)	2.31	60.00	720
Security Officer (2)	1.15	30.00	360
Drivers (x2)	1.54	40.00	480
Sub Total	**7.68**	**200.00**	**2,400**
Grand Total	**29.07**	**756.00**	**9,072**

3.6 Market /Marketing Arrangement

It is obvious why inventory of finished goods was estimated to be negligible in the earlier assumption. This is because what the marketing department would need to do is to sensitize the consumers of the availability of our products and their prices and almost instantly, the sales are made. There is the confidence that if competition moves up the ladder, the company would device an appropriate marketing strategy to meet the challenge. This is the analysis of the estimated business transaction in respect of the investment. It is strongly believed that this estimate would hold within the foreseeable future as far as the production capacity of the soap industry is concerned.

3.7 The Cost of Infrastructure

Table 7: Cost of Infrastructure

S/n	Description	Measure	Quantity	Rate(#)	Amount(#)
1.	Warehouse Size factory	100x120ft	2	3,000,000	6,000,000
2.	Gen-set House	12x 10ft	1	350,000	350,000
3.	Admin Building	25x50ft	1	2,000,000	2,000,000
4.	Bore-Hole & O/head tank	NA	1	700, 000	700,000
5	Land				15,000,000
	Land & Building(L/B)				**24,050,000**
6.	Marketing Vehicles	NA	1	1,200,000	1,200,000
7.	Trucks		1	2,000,000	2,000,000
Motor Vehicles(MV)					**3,200,000**
7.	Office Tables/ Chairs	NA	10	15,000	150,000
8.	Computer/ office machines	NA	sum	450,000	450,000
9.	Office Accessories	NA	sum	150,000	150,000
	Office Equipment(OE)				**650,000**
Grand Total					**27,900,000**

3.8 The Cost of Project:

The estimated cost of the project is subdivided into two parts: the machinery and infrastructure. The machinery cost is estimated based on the price of continuous laundry drying plant from China. The locally fabricated machines are available in Nigeria and have lower prices and ruggedness but less robustness. The data is contained in Table 8.

Table 8:Feasible estimate of the cost of the project

Description	Amount (Naira)
Machinery	98,751,300.00
Key Infrastructure	27,900,000.00
Total Project cost	**126,651,300.00**

Table 9: Schedule of Annual maintenance and Depreciation

S/N	Description			Maint. Charge	Dep. Charge
1	Land & Building	24,050,000	601,250.00	1,202,500	
2	Plants/Machinery	98,751,300	2,468,782.50	9,875,130	
3	Motor Vehicles	3,200,000	64,000.00	640,000	
4	Office Equipment	650,000	13, 000.00	130,000	
Total			**3,147032.50**	**11,847,630**	

3.9 Overhead Cost Analysis

Table 10: Summary of Analysis of Overhead Cost

Overhead Cost Analysis Category	Basis	Rate/24hrs N' 000	Rate/Month N' 000	Rate/Anum N' 000
Production O/H			29.91	
Power & Lighting(diesel)	200 liters @ 150/L	1.15	234.00	359.00
Power & Lighting (PHCN)		9.00	406.00	2,812.00
Salaries/Wages	See Labour analysis	15.60	205.73	4, 872.00
Maintenance & Repairs (P/M)	2.5 % on cost S/L	7.91	50.10	2,468.75
Maintenance & Repairs (L/B)	2.5 % on cost S/L	1.92	4.00	601.25
Laboratory Materials		0.15	4.00	48.00
Other Consumables		0.15	822.92	48.00
Depreciation (P/M)	10 % on cost S/L	31.65	100.20	9,875.13
Depreciation (L/B)	5 % on cost S/L	3.85	0.04	1,202.50
Payroll Services	1 % on Payroll	0.02	**1,857.24**	0.48
Sub Total		**71.43**		**22,287.11**
Admin & Selling O/H			-	
Bank Charges : other	N 5/m	-	200.00	-
Salaries	See Labour Analysis	7.69	5.33	2,400.00
Maintenance & Repairs(M/V)	2.5% on cost S/L	0.20	1.08	64.00
Maintenance & Repairs(O/E)	2.5 % on cost S/L	0.04	53.33	13.00
Depreciation (M/V)	20% on cost S/L	2.05	10.75	640.00
Depreciation (O/E)	20 % on cost S/L	0.41	20.00	130.00
Business Promotions	1 % of Sal	0.76	4.00	240.20
Local Transport		0.15	4.00	48.00
Stationery		0.15	4.00	48.00
Telephones/Postages		0.15	20.00	48.00
Payroll Services	1 % on Payroll	0.76	**322.58**	240.00
Sub Total		**12.40**		**3,871.00**
Grand Total		**83.84**	**2,179.84**	**26,158.11**

3.10 Projected Annual cost of Production

Table 11: Projected Annual cost of Production:

Cost Centre	Per annum (₦ 000)
Raw materials	5,054,822.20
Labour	9,072.00
Production Overhead	22,287.11
Admin/selling O/H	3,871.00
Total	**5,090,052.33**

Table 11 contains the annual projected cost of project which includes the costs of raw material, labour and overheads (Table 10).

3.11 Justification for external Funding

In event that part of the required capital is obtained from bank e.g. Bank of Industry (BOI) in the amount of One hundred million (100m) naira, we are optimistic that at an annual interest rate of 10% compounded, the loan would be totally liquidated in five year time at equal yearly repayment. The computation of the repayment amount as well as the amortization schedule is presented in the Table12.

Yearly Repayment Parameters

Loan amount (Naira) 100,000,000.00
Tenure (Years) 5
Interest Rate 10 %
Discount Factor 3.7908
COY Rate -
Management -

Annual Instalment = Loan Amount/Discount Factor
= 100,000,000/3.7908
=N**26, 379,656.00**

The yearly repayment schedule is presented in the amortization analysis as contained in Table 12while the profit estimation result is contained in Table 13.

3.13 Amortization Schedule

Year	Instalment Payment	Principal amount	Annual Interest	Principal Payment
0	-	100,000,000.00	-	-
1	26,379,656.00	83,620,344.00	10,000,000.00	16,379,656.00
2	26,379,656.00	65,602,722.40	8,362,034.40	18,017,621.60
3	26,379,656.00	45,783,338,60	6,560,272.20	19,819,383,80
4	26,379,656.00	23,982,016,40	4,578,333.80	21,801,322,20
5	26,379,656.00	-	2,398.201.60	23,981,454.40

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3.14 Profit and loss Estimation

Table 13: Summary of projected profit and loss for the year 2017

Gross sales	6,491,696.64
Other Incomes	---------
Cost of Raw Materials	5,054,822.20
Salaries and Wages	9,072.00
Gross Operating income	**1,427,802.44**
Operating Expense	
Total Production O/Head	**22,287.11**
Total Admin &Selling O/Head (including bank charges)	3,871.00
Total operating Expenses	**26,158.11**
Net Profit before Tax	**1,401,644.33**
Taxation (30%)	420,493.30
Profit after Tax	**981,151.03**
Appropriation	
Statutory Reserve	490,575.51
Transfer to general reserve	490,575.51

Conclusion

- The Soap production requires an average working capital and energy requirement as cost of raw materials and overhead is not heavy.
- Soap is among Fast Moving Consumer Goods (FMCGs) and this would make the business to experience a very high turnover in sales.
- The price of the product is affordable.
- The raw materials could be obtained locally with ease.
- It could be ascertained that from the net annual profit of N981, 151,030.00 realized that the project is feasible, viable and profitable. Also, the project will be able to pay off its cost of investment.
- The business is more viable than most government financial bonds.
- Also, financial institutions would be interested in funding such an investment while money invested would be recouped at the end of five financial years with all the loan terms and interest paid up.
- The introduction of other brands and specifications would equally boost the sales and turnover.

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